Rapporto di test n° TR_17132
Test report n° TR_ 17132

Test di protezione grado IPX5
Degree of protection IPX5 test
Rif: procedura di test IL 22014
Ref: test procedure IL 22014

Dispositivo testato ***Sample***	COMPACT 46 500 M J1900 ACL MD SCL
P/N ***P/N***	993201601000
Modelli derivati ***Derived models***	/
Persone presenti ***Attendees***	/
Costruttore ***Manufacturer***	AESYS S.p.A. - Via Pastrengo 7c 24068 Seriate (BG), Italia Tel: +39 0352924111 www.aesys.com
Laboratorio ***Test laboratory***	AESYS S.p.A. - Via Pastrengo 7c 24068 Seriate (BG), Italia Tel: +39 0352924111 www.aesys.com
Data del test ***Test date***	03/05/2017
Data d'emissione ***Issue date***	09/05/2017
Tecnico di laboratorio ***Lab. Test engineer***	Sergio Fustinoni .....
Responsabile di laboratorio ***Lab. Manager***	Egidio A. Fogliata .....
Revisione ***Revision***	00 *First release*

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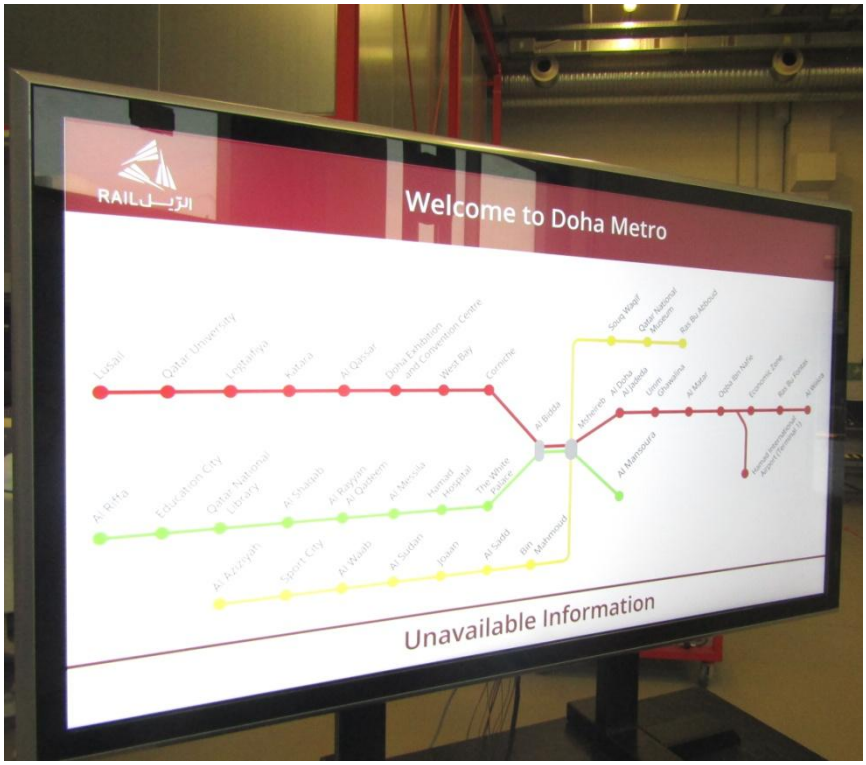
1 DUT - INFORMAZIONI GENERALI
DUT - GENERAL PRODUCT INFORMATION

The DUT (Device Under Test), named **COMPACT 46 500 M J1900 ACL MD SCL**, is a variable message panel based on TFT technology used for video-information in railways applications.



DUT - COMPACT 46 500 M J1900 ACL MD SCL

DUT - Product identification label

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2 NORMATIVE DI RIFERIMENTO
REFERENCE NORMATIVE

All the tests are managed according to the European standard **EN 60529**: *Degrees of protection provided by enclosures (IP Code*).

3 PROCEDURA DI TEST DI RIFERIMENTO
REFERENCE TEST PROCEDURE

The test is managed according what is described on the reference test procedure: *"IL 22014 IP degree (IPX5)"*.

4 STRUMENTAZIONE UTILIZZATA PER IL TEST
USED TEST MEASUREMENT INSTRUMENTS

Description	Model	Builder	Serial n°	Calibration n°	Calibration date
Test nozzle	Calibrated for IPX5 test	Galbusera S.r.l	3866	NA	NA
Flowmeter	FTV225	Officine orobiche S.p.A.	75984/4.3	ID137	26/09/2016

5 PARAMETRI DI TEST
TEST PARAMETERS

The test method is compliant to the requirements of standard: **EN 60529**.

Test site: The enclosure under test is placed on its normal operation position.

Flow: 12.5 L/min
Duration: 1 min/m^2 with at least 3 minutes for side
Distance: From 2.5 m to 3 m

Environmental conditions: Environmental temperature: 21°C
Relative humidity: 45%

Test measurements uncertainty: Flow: ± 5% L/min
Duration: ± 3s

The measurement uncertainties stated in this document are estimated as extended uncertainty obtained multiplying the standard uncertainty by the coverage factor *k* corresponding to a confidence level of about 95%.

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6 DESCRIZIONE DEL TEST
TEST DESCRIPTION

The enclosure under test is placed in its normal operating vertical position. It's unpowered during the execution of the test. The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as defined by the Standard.

The conditions to be observed are as follow:

- flow: 12.5 L/min ± 5%;
- pressure is adjusted to give the specified delivery rate;
- distance: between 2.5 m and 3 m;
- duration of test: 1 minute for each side.

6.1 Severità
Severity

Degree of protection: **IPX5**.

6.2 Condizioni di accettabilità
Acceptance conditions

If any water has entered, it shall not:

- be sufficient to interfere with the correct operation of equipment or impair safety;
- deposit on insulation parts where it could lead or tracking along the creepage distances;
- reach live parts or windings not designed to operate when wet;
- accumulate near the cable and/or enter the cable if any.

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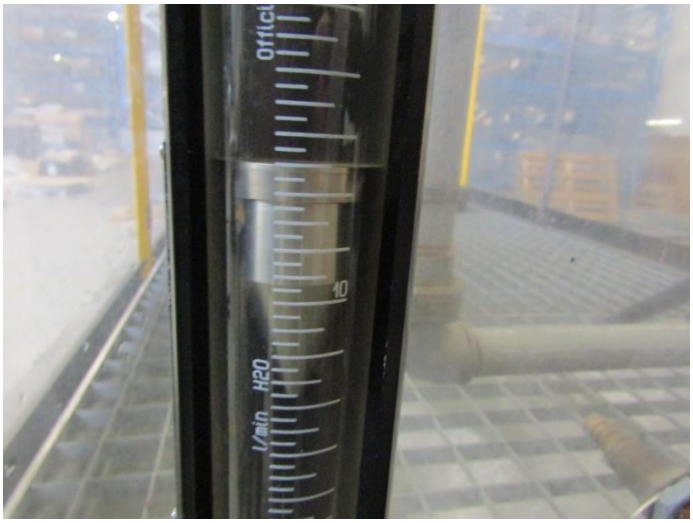
6.3 Immagini di test
Test pictures



Flowmeter used in the test

DUT inside the IP chamber

DUT during the test, front

DUT during the test, back

DUT during the test, left side

DUT during the test, right side

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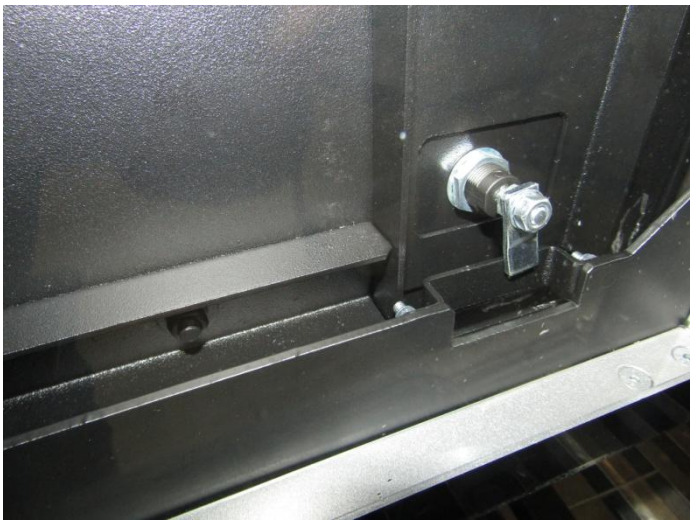
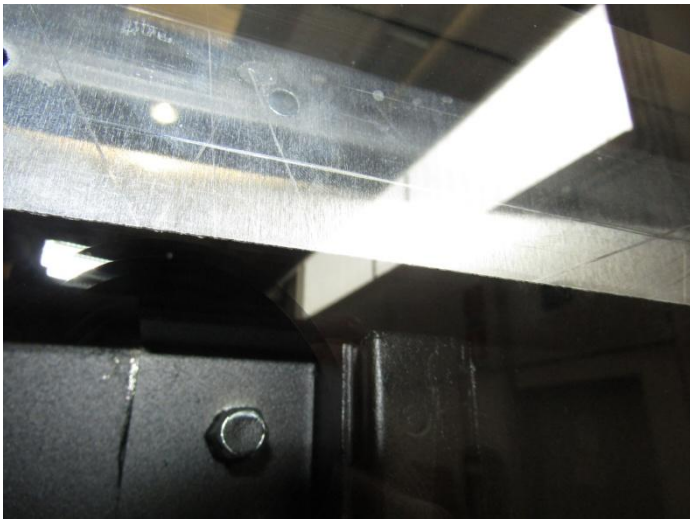
6.4 Controllo dopo il test
Check after the test



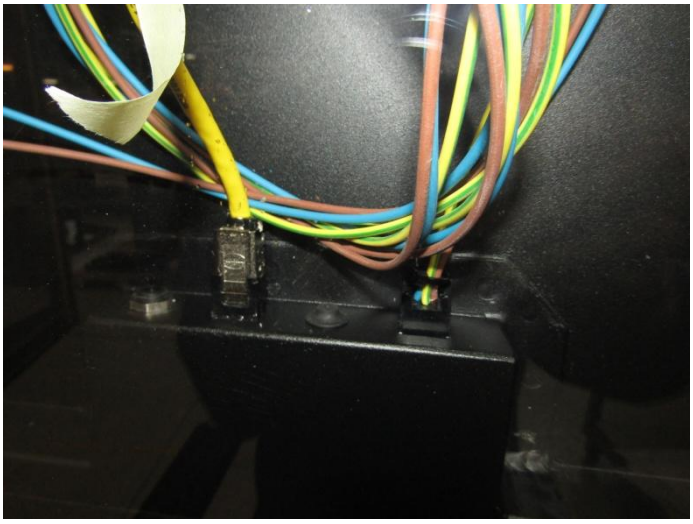
Bottom right corner

Bottom left corner

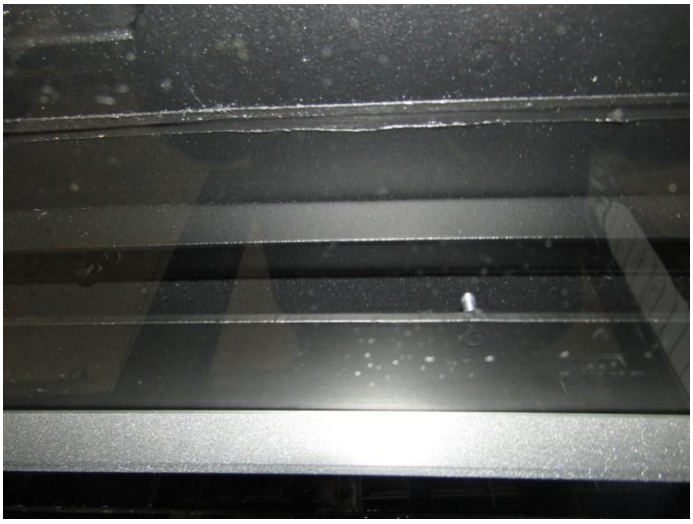


Top right corner

Top left corner



Input cables zone



Center panel

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6.5 Sanzioni
Sanctions

Requirements	Result	Verdict
Visual inspection	No particular anomaly	**Passed**
Limited entry of water	No entry of water	**Passed**
No risk for the security	No deposit of water on dangerous components	**Passed**

7 ESITO DEL TEST
TEST RESULT

Test	Severity	Measured	Result
IP degree	IPX5	No water penetration inside the enclosures	**Passed**

FINE DEL REPORT
End of test report

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